

Amendment
Serial No. 10/727,510
Attorney Docket No. 032094

REMARKS

Claims 1-5 are pending in the present application and are rejected. Claims 2-5 are herein amended. Claim 1 is herein cancelled without prejudice. New claim 7 is added herein.

Applicants' Response to Claim Rejections under 35 U.S.C. §112

Claims 1-5 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention.

It is the position of the Office Action that claims 1-5 are indefinite because the claims do not recite the basic steps of the claimed invention in a positive, active fashion. The Office Action notes that although the claims describe a method characterized by a process, they do not recite any actual steps that define the method.

In response, Applicants herein cancel claim 1 without prejudice and add new claim 7 which recites the specific steps of the method. Favorable reconsideration is respectfully requested.

Applicants' Response to Claim Rejections under 35 U.S.C. §102

Claims 1, 2, 4, and 5 were rejected under 35 U.S.C. §102(b) as being anticipated by Chee et al. (U.S. Patent No. 6,429,027).

It is the position of the Office Action that Chee discloses the invention as claimed. Since claim 1 is herein cancelled without prejudice, this rejection is moot. However, Applicants

respectfully submit that new claim 7 is patentable over Chee. Chee is directed at composite arrays utilizing microspheres, as generally illustrated in Figures 1A and 1B. These microspheres are bound to a substrate in an array, as described at column 17, lines 31-62. The microspheres may be bound to the substrate randomly or non-randomly. These beads may have a bioactive agent such as DNA or RNA bound to them. The beads may also have bound to them "identifier binding ligands" or IBLs. Each IBL has a specific "decoder binding ligand" or DBL which it may bind to. These IBL/DBL combinations may be antigen-antibody or other materials. According to Chee, "the DBL may be attached to a bead, i.e. a "decoder bead", that may carry a label such as a fluorophore." Column 15, lines 51-53.

It appears that it is the position of the Office Action that the IBL/DBL combination is analogous to the antigen-antibody reaction of the present invention. In the present invention, an antibody-antigen reaction acts to bind addressing probe protein 12, which is attached to the substrate 10, and address linker 3, which is attached to bead 1. Specifically, new claim 7 recites "capturing said beads-ID recognizing address linkers fixed to said beads by an antigen-antibody reaction using an addressing probe protein fixed to a substrate." In other words, the bead 1 is bound to the substrate 10 via a specific antigen-antibody reaction.

On the other hand, Chee discloses attaching the microspheres to the array either randomly or non-randomly. However, the non-random application of microspheres involves "photoactivatable attachment linkers or photoactivatable adhesives or masks," and not antigen-antibody pairs. See column 17, lines 51-53. Chee discloses the use of IBL/DBL combinations, but these only appear to be utilized for the purpose of binding a microsphere to another bead

called a “decoder bead.” Chee does not disclose or suggest the use of an antigen-antibody pair in order to bind the microspheres to the array. Therefore, Applicants respectfully submit that new claim 7 is patentable over Chee. Favorable reconsideration is respectfully requested.

Applicants’ Response to Claim Rejections under 35 U.S.C. §103

Claim 3 was rejected under 35 U.S.C. §103(a) as being unpatentable over Chee in view of Collier et al. (U.S. Patent No. 5,985,548).

It is the position of the Office Action that Chee discloses the invention as claimed, with the exception of teaching a method of stirring beads. The Office Action relies on Collier to provide this teaching. Collier discloses that “[t]est mixtures are agitated to assure contact with the bead supports.” See column 30, lines 11-12. This passage is directed to contact between bead supports such as a polystyrene matrix (see column 10, lines 57-67) and a previously created combination of polystyrene microsphere beads, goat anti-mouse IgG antibody, mouse IgG antigen, and a biotin-tyramine conjugate. Collier does not disclose or suggest that target biopolymers and beads are put in a reservoir together with a buffer solution and are stirred using a physical, electrical or chemical means.

Furthermore, Applicants submit that even if Collier does disclose target biopolymers and beads put in a reservoir together with a buffer solution and stirred using a physical, electrical or chemical means, there is no suggestion or motivation in the art to modify Chee to provide such a stirring. Chee appears to suggest that target analytes may be exposed to bioactive agents prior to the attachment of microspheres. See column 5, lines 49-55. Chee makes no suggestion that this

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procedure, which lacks a disclosure of mixing of any kind, is insufficient for the intended purposes. Thus, one having ordinary skill in the art would not have been motivated to modify the teachings of Chee by including the “agitation” of Collier. Applicants respectfully traverse the rejection. Favorable reconsideration is respectfully requested.

Applicants’ Response to Double Patenting Rejection

Claims 1-5 were provisionally rejected on the ground of non-statutory obviousness-type double patenting over claims 1-4 of co-pending Application No. 10/960,849.

The Office Action states that although the claims are not identical, they are not patentably distinct from each other. In response, Applicants herewith file a Terminal Disclaimer. Thus it is requested that the double patenting rejection be withdrawn.

For at least the foregoing reasons, the claimed invention distinguishes over the cited art and defines patentable subject matter. Favorable reconsideration is earnestly solicited.

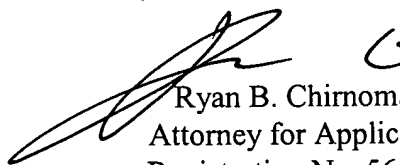
Should the Examiner deem that any further action by applicants would be desirable to place the application in condition for allowance, the Examiner is encouraged to telephone applicants’ undersigned agent.

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If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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Enclosure: Terminal Disclaimer